PROC. ENTOMOL. SOC. WASH.
83(3), 1981, pp. 472–478

THREE NEW SPECIES OF ANOBIIDAE FROM SOUTHWESTERN UNITED STATES AND NORTHWESTERN MEXICO (COLEOPTERA)

RICHARD E. WHITE

Systematic Entomology Laboratory, IIBIII, Agric. Res., Sci. and Educ. Admin., USDA, % U.S. National Museum of Natural History, Washington, D.C. 20560.

Abstract.—Tricorynus **dudleyae,** *Trichodesma* **fuliginosa,** and *Byrrhodes* **ovatus** are described as new. The new species are illustrated, and characters are given that distinguish them from their nearest relatives. For the first time illustrations of certain closely related species of the genus *Trichodesma* are presented for comparative purposes.

The new species described below are further contributions resulting from my studies on Anobiidae.

The species of *Tricorynus* was reared from *Dudleya edulis* (Nuttall) by Richard L. Westcott of the Oregon Department of Agriculture and is described so the name can be used in Westcott's studies on Buprestidae. The host plant is a succulent that is endemic to southern California and northwestern Baja California. A species of *Chrysobothris* (Coleoptera: Buprestidae) was also reared from the plant, and it, too, is undescribed.

Although pubescent patterns and other characters of members of *Trichodesma* generally allow species to be distinguished easily, the often subtle nature of these features makes it very difficult to describe them effectively. This makes the assigning of names on the basis of descriptions very risky; attempts to assign names are often in vain due to uncertainty of correct interpretation of a description. I have long felt that drawings are needed to best show the characters of these beetles, and in this paper I illustrate three closely related species of *Trichodesma,* one of which I describe as new.

The new species of *Byrrhodes* is from a collection of anobiids that was sent to me for identification.

The museum designations used herein are explained in acknowledgments.

Tricorynus dudleyae White, NEW SPECIES

Figs. 1, 2

Description.—*General:* Dorsal surface and metasternum reddish brown to dark reddish brown, head, abdomen, and sometimes elytral apex lighter red brown. Pubescence dull yellowish, moderately dense, not obscuring surface sculpture. Body in profile stout and moderately elongated, not gibbous. Punctation dual, large punctures at side of pronotum fine and dense, separated on an average by less than diameter of a puncture.

Head: Eyes separated by 2.2–2.7× vertical diameter of an eye, bulging to weakly flattened. Eighth antennal segment nearly 1.5× as long as wide. Last segment of maxillary palpus about 2× as long as wide.

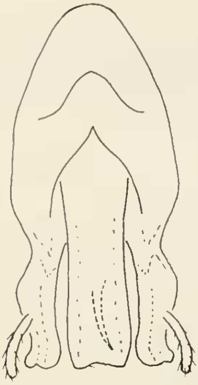
Dorsal surface: Pronotum at side moderately bulging above anterior angle, margin immediately above anterior angle not outwardly arcuate as usual, but depressed and nearly straight to (usually) weakly, inwardly arcuate. Large punctures of elytra with a feeble tendency to be aligned in longitudinal bands; at apical ½ of elytron laterally with a distinct stria, above this with a shallow, weakly indicated to almost completely obsolete groove.

Ventral surface: Anterior tibia bistriate; anterior groove more or less weak, not marginal, roughly ½ length of tibia; posterior groove very deeply impressed and broad, extending nearly entire length of tibia, not marginal; middle tibia not grooved. Metasternum at middle weakly rounded front to back, at side very strongly rounded front to back, most strongly rounded before posterior margin; larger punctures becoming distinctly smaller, sparser laterally, not attaining side; side anteriorly with an elongated, narrow fovea, with a small fovea internally.

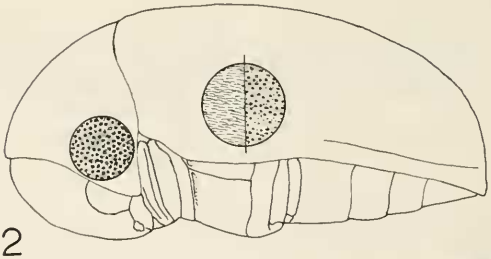
Length: 2.6–3.7 mm.

Types.—Described from 29 specimens: ♂ holotype (USNM no. 76478) and 13 paratypes: *USA*, California, San Diego Co., Otay Mesa, Jct. Otay Valley and Heritage Roads, R. L. Westcott, reared from *Dudleya edulis*, coll. 9-V-1977, emerged 13-V to 29-VI-1977 (8 in USNM, 2 in CAS, 2 in LACM, 2 in UI) (holotype, 13-V). Fifteen paratypes: *Mexico*, Baja California, 1 mi. E. Rodriguez Dam, Hy. 2, km. 164, slopes above railroad, R. L. Westcott, 1 taken on 9-V-1977, 14 reared from *D. edulis* collected on 9-V-1977 and emerged 29-V to 20-VI-1977, 1 emerged 23-IV-1979 (13 in USNM, 1 in CAS, 1 in LACM). Paratypes have not been sexed because internal dissections are required to do this.

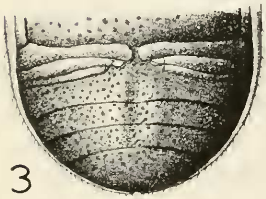
Remarks.—According to R. L. Westcott (personal communication) this beetle was reared from caudices of *Dudleya edulis* that had been killed by the boring of *Chrysobothris* or pyralid larvae, or by unknown causes. The plant occurs in the coastal sagebrush community of southwestern California and northwestern Baja California. Four or five other species of *Dudleya* were examined in Baja California, but none showed evidence of anobiid infestation. Although most of the adult beetles emerged within two months after the material was collected, one adult emerged two years later, and numerous live larvae were found in the plant remains in October 1979; the latter could have resulted from reinfestation, or from slowed development due to dry conditions in the laboratory.



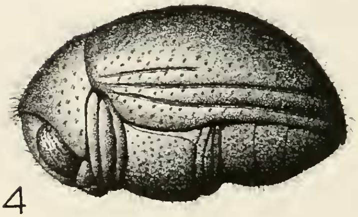
1



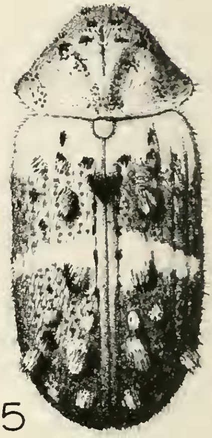
2



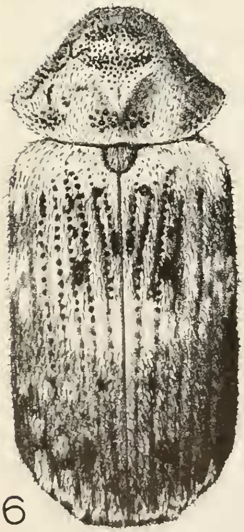
3



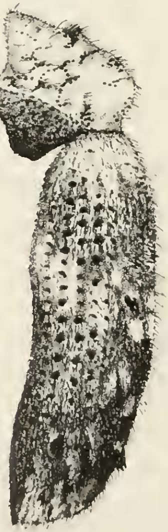
4



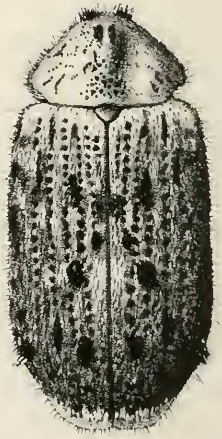
5



6



7



8

Figs. 1–2. *Tricorynus dudleyae*. 1, Male genitalia, dorsal view. 2, Lateral view. Figs. 3–4. *Byrrhodes ovatus*. 3, Abdomen. 4, Lateral view. Figs. 5–8, *Trichodesma* spp. 5, *T. sordida*, dorsal view. 6, *T. fuliginosa*, dorsal view. 7, *T. fuliginosa*, lateral view. 8, *T. pictipennis*, dorsal view.

In my key to species of *Tricorynus* (White, 1965: 296), *T. dudleyae* runs to couplet 77 (which includes *T. obliteratus* White and *T. mancus* (Fall)) and is most nearly related to *T. obliteratus*. I offer the following modification of my key to accommodate *T. dudleyae*:

77(76). Large punctures at side of elytron confused, with no tendency to form bands; southern ⅔ of California to northwestern Mexico .... *mancus* (Fall)
– Large punctures at side of elytron weakly to obscurely tending to form bands; extreme southern California, southern Arizona, and northwestern Mexico 77a
77a(77) Pronotum at extreme side nearly evenly rounded, not bulging; eyes separated by 1.5–2.1× vertical diameter of an eye; length 1.9–3.2 mm; extreme southern California, southern Arizona, and northwestern Mexico .... *obliteratus* White
– Pronotum at extreme side more or less clearly bulging; eyes separated by 2.2–2.7× vertical diameter of an eye; length 2.6–3.7 mm; southern California and northwestern Mexico .... *dudleyae*, new species

Other characters aid in distinguishing *T. dudleyae* from *T. obliteratus*. In *T. obliteratus* the pronotal margin immediately above the anterior angle is weakly depressed and straight or nearly so and farther up below the posterior angle is (as usual) outwardly arcuate. In *T. dudleyae* the pronotal margin immediately above the anterior angle is clearly depressed and often inwardly arcuate and farther up the margin is outwardly arcuate, so that in many specimens the entire pronotal margin between the anterior and posterior angles is sinuate from a posterior view. Also, the large punctures at the side of the pronotum are larger in *T. dudleyae* and are separated by, on an average, the diameter of a puncture or less, whereas in *T. obliteratus* they are separated by, on an average, the diameter of a puncture or a little more.

Trichodesma fuliginosa White, NEW SPECIES

Figs. 6, 7

Description.—*General:* Predominantly dark brown, this color determined largely by ground color not being concealed by mostly sparse pubescence. Pubescence of dorsal surface mostly dark brown to black, not dense, dark pubescence on elytra forming numerous small tufts; some pubescence tan, denser than dark pubescence, and concealing most of surface beneath it, tan pubescence most dense basally on pronotum, basally, medially, and apically on elytra. Bristling hairs short, not dense.

Head: Eyes large, bulging, separated by 1.4–1.5× vertical diameter of an eye, bearing bristling hairs. Tan pubescence not dense, granulate surface visible beneath. Antenna not long, if laid beside body extending from anterior tip of pronotum to basal ¼ of elytron; last 3 segments together about 1.5× as long as basal 8 segments together. Last segment of maxillary palpus fusiform, about 2× as long as wide; last segment of labial palpus fusiform, less than 2× as long as wide.

Dorsal surface: Pronotum nearly as wide to as wide as elytra at base; lateral margin not toothed, weakly sinuate; in lateral view with a crest (Fig. 7); dark hairs forming a pair of feeble tufts between crest and anterior margin, tufts variable in development; large granules showing through pubescence, granules most dense on anterior half of pronotum. Elytra with large punctures more or less clearly aligned in rows; all dark elytral tufts small, first interval with 2 tufts, 3rd interval with 5 or 6, 5th interval with 3 or 4, often with 7th and 9th intervals each bearing a tuft before declivity; apex of elytra not truncate, nearly evenly rounded; lateral margin at apex sinuate.

Ventral surface: With tan pubescence that obscures but does not conceal surface; abdomen medially with numerous short, irregularly aligned series of granules, at sides and apex granules forming more distinct series; segments 3 and 4 produced at sides; segment 4 at middle flattened to shallowly concave, segment 5 at middle very broadly, shallowly concave.

Length: 4.3–5.8 mm.

Types.—♂ holotype (USNM no. 76456) and 3 paratypes (USNM): *USA*, Texas, nr. Alamo, San. Ana Nat. Refuge, 18 Nov. 66, bl. lt., A. Blanchard; collected at black light. One paratype (USNM), Texas, near Brownsville, XI-22-1967, A. and M. E. Blanchard. One paratype (in Robert Turnbow collection), Texas, Starr Co., r.a. on 83, 4 mi. W. Sullivan City, R. Turnbow; on *Cordia boissieri* A. DC. I have not dissected the paratypes to determine the sex.

Remarks.—Of the described Mexican species, *T. fuliginosa* is most similar to *T. pictipennis* Champion (Fig. 8); there is a specimen of the latter in the USNM that I compared with the type in the British Museum (Natural History) in London. *Trichodesma pictipennis* occurs in Guatemala and southern Mexico (the USNM specimen is from the junction of Routes 190 and 195 in Chiapas, Mexico) and differs from *T. fuliginosa* in form and color. The pronotum is clearly narrower than the elytra basally, and the light-colored pubescence of the dorsal surface is predominantly tan but with patches of near white hairs before the elytral apex that are best seen in a near end-on view. In *T. fuliginosa* the pronotum is as wide as the elytra basally, and all light-colored pubescence of the dorsal surface is tan. The paired anterior tufts of dark hairs on the pronotum of *T. pictipennis* are much denser than the similar tufts of *T. fuliginosa*. The elytral margin of *T. pictipennis* is swollen and angulate apically on each side of the suture; in *T. fuliginosa* the margin is not swollen and is sinuate. As a final point of difference, the bristling hairs of *T. pictipennis* are longer than those of *T. fuliginosa*.

Trichodesma sordida Horn (Fig. 5), from Brownsville, Texas, is also similar to *T. fuliginosa*. However, it bears light-colored pubescence that is off white and densest basally on the pronotum, and basally, medially, and in scattered tufts apically on the elytra; also scattered tufts on the elytra are orange to brown. The light-colored pubescence of *T. fuliginosa* is tan, and all elytral tufts are black. In Fall's key to *Trichodesma* species (1905: 172), *T. fuliginosa* closely agrees with the notes given for *T. sordida*, but differs by the above characters.

Byrrhodes ovatus White, New Species
Figs. 3, 4

Description.—*General:* Broadly oval, 1.4× as long as wide. Body primarily bright reddish brown, but hue of dorsal surface nearly orange brown, and body margins often dark; antenna orange brown. Pubescence short, bristling, not obscuring surface, dull yellow; elytral disk with rows of hairs alternating in direction. Surfaces shining. Most surfaces punctured, punctures on elytra largest, weakly arranged in rows, punctures of pronotum and metasternum nearly comparable in size and density, those of abdomen smaller and sparser, those of head smallest and sparsest.

Head: Eyes large, separated by about their vertical diameter. Antenna apparently 9-segmented (intermediate segments minute), 7th segment wider than long, apical margin markedly sinuate, 8th segment a little less than 2× as long as wide, 9th segment a little over 2× as long as wide. Last segment of maxillary palpus subtriangular, almost 2× as long as wide, apical margin nearly straight; last segment of labial palpus subtriangular, a little longer than wide, apical margin broadly notched.

Dorsal surface: Pronotum at side weakly convex. Elytron at side with 2 deep grooves, extending from above fovea for middle leg almost to suture at apex, lower groove a little longer than upper groove, interval between grooves distinctly convex except near base, with a short, distinct, 3rd, subhumeral groove extending to level of hindcoxa, interval between 2nd and 3rd grooves convex.

Ventral surface: Metasternum lacking a median fovea, but with a weakly impressed, longitudinal groove from near middle to apex; anterior metasternal lobe constricted by tarsal grooves. Abdominal sutures 2, 3, and 4 most distinct at sides, weaker but evident at middle, sutures evenly arcuate or only 2nd feebly bisinuate; surface near middle concave, each side of concavity produced and rounded, produced portion most distinct on 3rd segment, but continued on 2nd and 4th segments.

Length: 1.7 mm.

Types.—Holotype (♂?; no. 76483 in USNM) and one paratype (CDFA): *USA*, Arizona, S.W.R.S., Cochise Co., 5400′, 5 mi. W. Portal, 1975, shelf fungus off walnut. The initials refer to the Southwestern Research Station.

Remarks.—This species is most closely related to *B. granus* (LeConte.) and in my key (White, 1973: 53) runs to *granus* at couplet 4. *Byrrhodes ovatus* differs from *B. granus* as follows: The length of *B. ovatus* is 1.7 mm, the abdomen is concave medially and protuberant on each side of the concavity, and it occurs in Arizona. *Byrrhodes granus* is 1.3–1.5 mm long, the abdomen is neither concave nor protuberant medially, and it occurs only in southern Florida. I consider the abdominal characters of *B. ovatus* as possibly sexual; therefore, both the holotype and paratype may be males. Because of the tightly fitting body parts and small size of this species, I have not dissected the genitalia; the chance of permanent damage to the specimens is too great.

ACKNOWLEDGMENTS

My thanks are offered to Richard L. Westcott, Oregon Department of Agriculture, Salem for donation of specimens and biological data; Fred Andrews, California Department of Food and Agriculture, Sacramento (CDFA) for loan of specimens and allowing retention of a holotype; and Robert Turnbow, Jr., Department of Entomology, Texas A. and M. University, College Station, Texas, for loan of a specimen. Other museum designations used herein follow: USNM, United States National Museum of Natural History, Washington, D.C.; CAS, California Academy of Sciences, San Francisco; LACM, Los Angeles County Museum of Natural History, Los Angeles, California; UI, University of Idaho, Moscow.

LITERATURE CITED

Fall, H. C. 1905. Revision of the Ptinidae of Boreal America. Trans. Am. Entomol. Soc., 31: 97–296.

White, R. E. 1965. A revision of the genus *Tricorynus* of North America (Coleoptera: Anobiidae). Misc. Publ. Entomol. Soc. Am., 4(7): 283–368.

———. 1973. A new genus, two new species, and a species key for *Byrrhodes* (Coleoptera:Anobiidae). Proc. Entomol. Soc. Wash., 75(1): 48–54.